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The **Solar Alliance**

TO: The Arizona Corporation Commission

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The Solar Alliance Preemptive Recommendations on 2011 REST Implementation Plans

The Solar Alliance (The Alliance) appreciates this opportunity to address the Arizona Corporation Commission (Commission) with regard to the 2011 Renewable Energy Standard and Tariff (REST) Implementation Plans for regulated utilities.

The exponential growth over the last two years in demand for residential renewable energy systems, which are comprised primarily of solar thermal and solar electric systems, offers strong evidence that Arizona citizens are ready to adopt renewable energy technologies on a scale capable of meeting and exceeding the residential solar goals as set forth in R14-2-1805(D).

The Alliance supports policies that build a foundation for long term, sustainable solar markets and consumer friendly programs. It is our experience in other states, that as regional solar markets mature and program participation reaches critical mass, it is imperative to ensure transparent changes to customer incentive levels to avoid market disruption and to properly manage program budgets. The Alliance supports development of customer incentive adjustment mechanisms that provide the utility with flexibility to attain and even accelerate compliance with its REST requirements, while maintaining adequate incentive levels to encourage residential solar adoption. Within the context of this document, we offer several recommendations for the Commission to consider as it begins to review 2011 REST Implementation Plans.

High Demand for Solar

In most utility service territories, demand for residential solar incentives has significantly out-paced available funding. Currently, residential customers of Arizona Public Service Company (APS) seeking incentives for residential PV projects will have to wait until later this year before funding becomes available for additional reservation confirmation. This funding gap has put all new residential solar sales in the APS service territory on hold.¹

Additionally, Electric Co-ops such as TRICO² and SSVEC³ have seen high levels of customer participation in their residential programs in the recent past. The limited funds allocated to these programs compared to the backlog of customers seeking to participate are reportedly pushing Renewable Energy Credit (REC) purchase payments for participants deep into 2011.

¹ http://www.aps.com/main/green/choice/solar/funding_1.html

² http://www.trico.coop/index.php?option=com_content&view=article&id=129&Itemid=116

³ <http://www.ssvec.org/programs/energyREST.php>

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The impact on the local solar industry when customer incentive programs become dysfunctional can be severe. Stable markets typically propel business innovation and efficiencies, thereby reducing the cost of end products to consumers. This is true for Arizona's residential solar industry, which provides some of the lowest installed costs of residential solar electric systems in the United States. Cost reduction and quality service are the primary objectives of the solar industry and great strides have been made to achieve these goals in recent years. However, gains on the cost reduction curve can be easily lost, especially within the residential integrator segment, when market instability ensues. The lack of a stable market can compromise a company's financial condition and its ability to retain a skilled workforce. This can curtail or seriously degrade the ability to continue advancing down the cost curve with associated high quality service. In the event that prolonged market instability arises, severe damage to the core of the local industry can occur. Arizona companies can be eliminated from the market and the entities that once supported attainment of REST objectives may have to be reconstituted once program stability returns.

Solar industry members supporting Arizona's residential markets are currently faced with program instability on a number of fronts. The Alliance is deeply concerned that market efficiencies due to local competition and a skilled workforce, both of which result in lower costs to the consumer, could soon be lost. This retraction in the market could compromise the industry's ability to support REST compliance in future years. Swift action by the Arizona Corporation Commission, along with implementation of The Alliance's recommendations contained herein, can assist in countering the negative momentum currently being experienced in the residential sector due to the potential of "boom and bust" cycles.

The Solar Alliance Recommendations for Maintaining Market Stability

The inclusion of a pre-established schedule of declining incentives in all 2011 REST Implementation Plans, coupled with the transparency requirements mandated by the Commission in the 2010 REST Implementation Plans, will help stabilize the residential market in all service territories. This, in turn, will stabilize demand and allow solar integrators the opportunity to appropriately organize their business operations and again maximize their efficiencies. With these principles in mind, The Alliance suggests the following mechanisms be incorporated into all 2011 REST Implementation Plans. If adopted, these recommendations will greatly reduce the possibility of program over-subscription, as well as under-subscription, and should provide a basis for the stable achievement of residential goals contained in the REST.

Recommendation # 1: Approve Five Year Implementation Plans for all Residential Programs

- With the adoption of the recommendations below, the need for dramatic changes in residential programs is unlikely over a multi-year period.
- Adoption of a five year budget would provide the market certainty needed by companies looking to make long-term investments in Arizona's residential market.
- A five year budget can be developed around the following items:
 - Realistic estimates of the contribution each technology will make toward program compliance, based primarily on historical data
 - Determination of incentive funds required to attain compliance, for each technology, based on participation levels, future compliance targets and scheduled decreases in incentive levels layered over the 5 year budget
 - Inclusion of a funding set-aside for Incentive Increase Mechanisms (or "Sweeteners"), to be used only if compliance goals are not being attained (see Recommendation # 4 below).

- With annual funding and solar MWh production increases already scheduled within the REST through 2024, providing for a multi-year residential program would bring the greater objective of future-year compliance to the forefront, while establishing the mechanisms to balance year-to-year continuity in the residential markets

Recommendation # 2: Eliminate Backlog at APS and Co-ops

- In order to stabilize the residential market in Arizona, it is necessary to quickly eliminate the backlogs in customer reservation applications and/or REC payments.
- As part of the five year budget, we recommend that any utility experiencing a backlog report the amount of funds required to zero out the backlog and provide fund reservation and backlog information on a publicly accessible website. Eliminating back-logs first will allow utilities to focus on re-launching their programs with new trigger mechanisms.

Recommendation # 3: Incorporate Incentive Reduction “Triggers”

- For PV, base the incentive reduction “triggers” on MW capacity installed; MW trigger levels should be tied to a percentage of the total MWs required to meet the goal over the 5 year REST implementation period. Incentives will be reduced if a certain percentage of the capacity needed to meet this goal is achieved by a certain date.⁴ A way to make this more predictable for the market would be to require a notification of an upcoming drop when 90% of a given MW level has been reached and then dropping to the next incentive level 15 days after the notification.

Specifically, we suggest establishing a 5-year MWH target and a UFI reduction schedule that drops the UFI rate by 10% for each 10% block of MWH attained during a 5-year period. As soon as the 10% block of MWH attainment has occurred within the first six months of the 5 year plan, the utility would drop the incentive by 10%. Subsequent drops would be based on attaining additional 10% compliance blocks. If the utility were behind schedule, future incentive drops would be delayed to allow the market to catch up to compliance. As soon as the utility is back on track to meet their 5 year compliance goals then when the next 10% block is reached the incentive levels would automatically decrease. Ideally, every six months you would attain 10% additional compliance toward the 5-year plan and the incentive level would drop accordingly. If compliance wasn't on schedule, the incentive level wouldn't drop. If compliance was ahead of schedule, the drops would occur more frequently.

- Example: 5 year plan for APS
 - Starting incentive = \$1.95 / Watt
 - As soon as the utility has achieved a capacity equal to or greater than that needed to meet 10% of “Year 5” capacity requirements, the residential incentive should automatically drop by 10 %
 - Additional incentive drops of 10% should be scheduled to occur upon attainment of additional “Year 5” capacity requirements in 10% increments.
 - It is important to note, that no decreases in incentives would occur if the utility were not on track to reach compliance. In other words, if it

⁴ APS Supplemental filing to 2010 Implementation Plan: Exhibit 4B

were 3 years into the 5 year program and the utility reached 20% of total compliance, this would not trigger an automatic decline.

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Starting Incentive (APS \$1.95) (TEP 2.50) (SSVEC Trico \$3.00)	Compliance Percentage	APS Incentive Amount	APS Incentive Decrease	APS Incentive Decrease %	TEP Incentive Amount	TEP Incentive Decrease	TEP Incentive Decrease %	SSVEC/Trico Incentive Amount	SSVEC Trico Incentive Decrease	SSVEC/Trico Incentive Amount
	10%	\$1.75	\$0.12	7%	\$2.38	\$0.33	14%	\$2.88	\$0.50	17%
	20%	\$1.63	\$0.12	7%	\$2.05	\$0.33	16%	\$2.38	\$0.50	21%
	30%	\$1.51	\$0.12	8%	\$1.72	\$0.33	19%	\$1.88	\$0.50	27%
	40%	\$1.39	\$0.10	7%	\$1.39	\$0.10	7%	\$1.38	\$0.10	7%
	50%	\$1.29	\$0.10	8%	\$1.29	\$0.10	8%	\$1.28	\$0.10	8%
	60%	\$1.19	\$0.10	8%	\$1.19	\$0.10	8%	\$1.18	\$0.10	8%
	70%	\$1.09	\$0.07	6%	\$1.09	\$0.07	6%	\$1.08	\$0.07	6%
	80%	\$1.02	\$0.07	7%	\$1.02	\$0.07	7%	\$1.01	\$0.07	7%
	90%	\$0.95	\$0.05	5%	\$0.95	\$0.05	5%	\$0.94	\$0.05	5%
	100%	\$0.90	\$0.05	6%	\$0.90	\$0.05	6%	\$0.89	\$0.05	6%

- Funding for incentives should be made available in forward years as rebate levels decline. Utility should be rewarded for adding additional funding to the residential customer incentive program that allow the State to meet and exceed its goals.
 - Incentive funding should not be removed from the residential customer incentive program if customer uptake slows. Instead, a slowing in the market should be viewed as a reasonable market signal that incentive level decline may require a pause.
- The Alliance's proposed structure should improve market stability by establishing a smooth reduction in the overall incentive level over time, as opposed to the reactionary and choppy incentive reductions that have occurred recently in several residential markets
- During the five year period, incentive funding should be continuous and program budgets should include provisions that allow for continuity if over-achievement of the 5 year objective occurs

Recommendation # 4: Incorporate Incentive Increase Mechanisms or "Sweeteners"

- At times it may be necessary to provide additional incentives to promote greater program adoption in order to attain REST compliance. At the end of each 6 month period the utility should be granted the ability to implement one of the following options if program uptake is not on track to achieve bi-annual benchmarks:
 - Increase residential Up-Front-Incentives by \$0.10 / Watt
 - Deploy or accelerate marketing and advertising campaigns

Summary

As stated previously, The Alliance believes that implementation of these recommendations will send a signal to the market and industry that long-term stability is desired by the Commission. This signal is necessary for the industry to responsibly partner with utilities to meet yearly REST goals at the lowest possible cost to the ratepayer.

Finally, The Alliance would like to reiterate some of the benefits that residential PV systems provide to the utilities and ratepayers in general, especially in light of recent decreases in the cost of solar modules and associated incentive reductions:

- Using APS and their \$1.95 / Watt UFI as the example, the current cost per REC to the REST over 20 years is \$0.05 per kWh
- Residential solar projects are an in-state Renewable Resource and reduce the need to purchase out of state energy
- Residential PV systems help provide homeowners electric rate stability, cost reduction and control over their own electric bills
- Residential PV systems do not require water to produce electricity
- Residential PV systems deliver power at the point of consumption – a more efficient means of delivering power to end users
- Every kWh generated is used – either at the property or within the local distribution system.
- Arizona's inventory of residential rooftops allow for rapid deployment of solar electric systems – something that can be a challenge in the non-residential and utility-scale market segments
- The installation of residential solar electric systems requires companies to hire locally and create long term facilities in the state. Studies have shown that the installation of 1 MW of distributed solar electric systems will employ approximately 30 people for 1 year⁵.

We look forward to the serious consideration of these recommendations and are available to discuss at the convenience of the Commission.

Respectfully, submitted on behalf of the Solar Alliance.

Tom Alston



State Lead for the Solar Alliance

Include Disclaimer

⁵ Arizona Department of Commerce, Solar Road Map, Page 135
http://www.sfaz.org/Common/Files/az_solar_electric_roadmap_study_full_report.pdf